

1/2 011 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ETHYL VINYL ETHER -U-
AUTHOR--(03)-GUREVICH, V.R., BOGOD, I.A., MEZHLUMYAN, L.YE.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,594
REFERENCE--OTKRYTIYA, IZDBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ETHYL ETHER, VINYL COMPOUND, CHEMICAL PATENT, ETHANOL,
CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1593 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0135234
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0135234

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ETHYL VINYL ETHER IS PREPD. BY
HEATING ETOH AT 150-350DEGREES IN THE PRESENCE OF A CATALYST.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--A CHROMIUM CATALYST -U-

AUTHOR-(04)-GUREVICH, V.R., GOLIKOVA, V.I., ARUTYUNOVA, K.M., DALIN, M.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 186,390

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(9)
DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMIUM, CHEMICAL PATENT, CATALYST, CATALYTIC POLYMERIZATION,
ALKENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0847

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136281

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0136281
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CR CATALYST, HAVING A HIGHLY
DEVELOPED SURFACE, FOR POLYMN. OF OLEFINS, IS PREPD. BY SATG. SILICA GEL
WITH A SOLN. OF CR ANHYDRIDE IN AN ORG. LIQ., E.G. IN ACETONE.
FACILITY: VSESOUZNYI NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT PO POLUCHENIYU
I PERERABOTKE NIZKOMOLEKULYARNYKH OLEFINOV S OPYTNYM ZAVODOM.

UNCLASSIFIED

Acc. Nr.: AP0040420 -

Ref. Code: UR 0108

USSR

UDC 621.374.38 JPRS 50248

VETYUGOV, A. I. and GUREVICH, V. A. E.

"Error Probability at the Detection of Fluctuating Pulses by Strob-
ing Method"

Moscow, Radiotekhnika, Vol 25, No 1, Jan 1970, pp 40-43

Abstract: The error probability in the detection of fluctuating, in phase and duration, rectangular pulses in digital communication systems, by strobing method is considered. The relation between the error probability and statistical parameters of fluctuations and additive noises is investigated, with phase fluctuations of strobing pulses taken into account. A formula is derived which makes it possible to determine the probability of signal omission at arbitrary characteristics of the instant value distribution of additive noises, phase fluctuations of strobing and input pulses,

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as well as their durations. The dependence of the error total probability in the detection of the rectangular pulse on signal - noise ratio at the computer input is presented in a graph and a table. Original article has two figures and one table and five formulas.

19741871

Forming

USSR

UDC 621.771

VERESHCHAGIN, L. F., GUREVICH, YA. B., DMITRIYEV, V. N., KONYAYEV, YU. S.,
and POLYAKOV, YE. V., Moscow

"High-Temperature Gas Extrusion of Metals"

Moscow, Fizika i Khimiya Obrabrabotki Materialov, No 4, Jul/Aug 72, pp 85-91

Abstract: An apparatus is described for extruding various materials at gas pressures to 10 kbars in the temperature range 20°-1000°C. The process of heating the blank under high gas pressures by passing a current through the blank was examined. Heating the preparations was shown to be feasible, with rates to 70°/sec, during which the deviation from a linear increase was not more than +25°C. The amount of the initial heating of the gas was determined during its compression to 7 kbars in the apparatus. The processing of structural steels is feasible with the apparatus described.

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USSR

UDC 539.5.015

GUREVICH, YA. B., DMITRIYEV, V. N., KONYAYEV, YU. S., GSTROVSKIY, G. A.,
and EMTIN, R. I., Moscow

"Composite Strengthening of Steel by Hydroextrusion"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 71, pp 71-76

Abstract: An attempt is made to achieve high indicators of strength and ductility of structural steels by combination methods of strengthening: 1) thermomechanical treatment-strain aging of martensite and 2) treatment for an ultra-fine austenite grain-strain aging of martensite. Experiments were conducted using Cr-Ni-Si steels with a carbon content of 0.35% (steel A), 0.45% (steel B), and 0.50% (Steel C). Treatment consisted of austenization at 950°C, cooling to 850°C, rolling, water quenching, and tempering for one hour at 200°C (steel A) and 300°C (steel B). Steel C was treated to produce ultra-fine austenite by quenching from 900°C in oil, tempering for one hour at 200°C, repeated austenization in heating to 900°C at the rate of 100°C/sec, water quenching and tempering for one hour at 150 and 300°C. Deformation of the martensite at room temperature was accomplished by hydroextrusion at pressures up to 25 kbar. From the heat treatments mentioned above the following mechanical properties were achieved.

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GUREVICH, YA. B., et al., Fizika i Khimiya Obrabotki Materialov, No 4,
Jul-Aug 71, pp 71-76

	Tensile (kg/mm ²)	Yield (kg/mm ²)	Elonga- tion, %	Reduction in Area, %
Steel A	160	145	9	45
*Steel B	170-290	140-275	6-11	20-37
*Steel C	180-265	150-250	5-12	20-45

*Mechanical property ranges for steels B and C are the result
of introducing variations in the heat treating modes.

Three figures, 2 tables, 7 bibliographical references.

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1/2 C29 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DEFORMATION AGING OF MARTENSITE BY USING HYDROEXTRUSION -U-

AUTHOR--(05)--KURDYUMOV, G.V., VERESHCHAGIN, L.F., ENTIN, R.I., GUREVICH,
YA.B., KONYAYEV, YU.S.
COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(4), 869-73

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--METAL AGING, METAL DEFORMATION, METALLURGIC RESEARCH FACILITY,
HYDROSTATIC EXTRUSION, MARTENSITE, ALLOY DESIGNATION, LOW ALLOY
STEEL/(L)XRAMS LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0369

STEP NO--UR/0126/70/029/004/0869/0873

CIRC ACCESSION NO--AP0126124

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126124

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATIONS WERE PERFORMED ON STEEL OF THE KHNMS TYPE WITH A C CONTENT OF 0.45PERCENT, PREPD. BY OPEN INDUCTION SMELTING. WITH INCREASING DEGREE OF DEFORMATION THE STRENGTH AND THE YIELD POINT INCREASE. A "CRIT. DEGREE" OF DEFORMATION OF SIMILAR TO 5PERCENT IS OBSD. THEREBY, ABOVE WHICH THE INCREASE IN THE STRENGTH IS RELATIVELY SMALL. THE HIGHEST STRENGTH VALUES ARE OBTAINED UNDER THE CONDITIONS OF HYDROEXTRUSION OF MARTENSITE AND THE SUBSEQUENT NATURAL AGING AT ROOM TEMP. AS THE AGING TEMP. IS INCREASED, THE STRENGTH DECREASES, BUT THE EFFECT IS RETAINED EVEN AFTER AGING AT 400DEGREES. X RAY DIFFRACTION INVESTIGATIONS AND PRECISION D. MEASUREMENTS WERE EMPLOYED TO STUDY THE REASONS FOR THE SIMULTANEOUS INCREASE IN THE STRENGTH AND THE PLASTICITY OF THE STEEL. THE PREVIOUSLY OBTAINED RESULTS CONCERNING THE EFFECTIVENESS OF DEFORMATION AGING OF MARTENSITE UNDER HYDROEXTRUSION CONDITIONS WERE CONFIRMED. THE OPTIMUM TREATMENT CONDITIONS WERE ESTABLISHED. FACILITY: TSNIICM IM. BARDINA, MOSCOW, USSR.

UNCLASSIFIED

1/3 · 036 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--INVESTIGATION OF THE HYDRAULIC EROSION RESISTANCE OF HIGH STRENGTH
CHROME MANGANESE SILICON STEELS -U-
AUTHOR--(05)--CHELYSHEVA, A.A., PROKOSHIN, D.A., RAKHSHTADT, A.G.,
GUREVICH, YA.B., FOMIN, V.V.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MASHINOSTROYENIYE,
NO. 1, 1970, PP 117-122
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM MANGANESE STEEL, SILICON STEEL, STEEL HEAT TREATMENT,
STEEL HARDENING, CAVITATION/(U)50KH3G6S HIGH ALLOY STEEL, (U)40KH3G6S
STEEL, (U)25KH1468T STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0028

STEP NO--UR/0145/70/000/001/0111/0122

CIRC ACCESSION NO--AT0123820

UNCLASSIFIED

2/3 036

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0123820

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF HEAT TREATMENT AND THERMOMECHANICAL WORKING OF HIGH ALLOY CHROME MANGANESE SILICON STEELS (40KH3G6S AND 50KH3G6S) ON THE HYDRAULIC EROSION RESISTANCE OF THE STEELS IS EXAMINED, USING TWO TEST MELTS CONTAINING 0.38PERCENT C, 1.5PERCENT SI, 6.3PERCENT MN, 3.0PERCENT CR, 0.015PERCENT S, AND 0.001PERCENT P IN ONE MELT AND 0.50PERCENT C, 1.5PERCENT SI, 6.3PERCENT MN, 3.0PERCENT CR, 0.013PERCENT S, AND 0.004PERCENT P IN THE OTHER. CLEANED 40 KG INGOTS WERE FORGED AND HOT ROLLED INTO 20 TIMES 14 MM SHEET BILLETS, 7 MM THICK. HIGH TEMPERATURE THERMOMECHANICAL WORKING WAS PERFORMED AT 900DEGREESC WITH A 50PERCENT REDUCTION IN ONE ROLL PASS AND SUBSEQUENT HARDENING IN OIL AND AUSTENIZING IN 30 MINUTES. LOW TEMPERATURE THERMOMECHANICAL WORKING WAS PERFORMED AFTER A 30 MINUTE HOLD AT 900DEGREESC FOLLOWED BY FURNACE COOLING TO 500DEGREESC AND 2, 4 ROLL PASSES FOR A TOTAL REDUCTION OF 70-75PERCENT. FOLLOWING HARDENING AND WORKING, A NUMBER OF THE BLANKS WERE COLD WORKED AT MINUS 20DEGREESC, MINUS 35DEGREESC, AND MINUS 196DEGREESC TO OBTAIN A DIFFERENT AMOUNT OF MARTENSITE AND RESIDUAL AUSTENITE. SAMPLES OF THE ABOVE WERE SUBJECTED TO A 100 M-SEC WATER JET FROM A 5 MM NOZZLE. IT IS CONCLUDED THAT COLD WORKING, CAUSING TRANSFORMATION OF RESIDUAL AUSTENITE INTO MARTENSITE INCREASES THE YIELD POINT OF 40KH3G6S STEEL FROM 67 KG-MM PRIME2 TO 140 KG-MM PRIME2 AFTER HARDENING, WITH A SLIGHT INCREASE IN ULTIMATE STRENGTH. HYDRAULIC EROSION TESTS WITH THE TWO STEELS SHOWED THAT THEY HAVE GREATER RESISTANCE TO JET IMPINGEMENT EROSION THAN 25KH14G8T CAVITATION RESISTANT STEEL.

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0123820

ABSTRACT/EXTRACT--A NUMBER OF OTHER CONCLUSIONS REGARDING THESE STEELS ARE GIVEN, AND THE HIGH AND LOW TEMPERATURE WORKING PROCEDURES DESCRIBED IN THE ARTICLE ARE RECOMMENDED FOR PRODUCING STEELS FOR OPERATION UNDER SEVERE CAVITATION CONDITIONS WHERE THE CORROSION FACTOR IS OF LESSER IMPORTANCE. FACILITY: MOSCOW HIGHER TECHNICAL SCHOOL IMENI N. E. BAUMAN.

UNCLASSIFIED

USSR

UDC 669.146

CHELYSHEVA, A. A. (Aspirant), PRONOSHKIN, D. A. (Doctor of Technical Sciences, Professor), RAKHSHTADT, A. G. (Doctor of Technical Sciences, Professor), FOMIN, V. V. (Doctor of Technical Sciences), GUREVICH, YA. B. (Candidate of Technical Sciences), MILYAKOV, A. P. (Engineer), and MARTININ, A. A. (Candidate of Technical Sciences), Moscow Higher Technical School imeni N. E. Bauman

"Study of Hydroerosion Resistance of High Strength Chromium-Manganese-Silicon Steels"

Moscow, IVUZ Mashinostroyeniye, No 1, Jan 70, pp 117-122

Abstract: The article presents the study of properties of steels 40Kh3G6S and 50Kh3G6S after heat and heat-mechanical treatment. It is shown that the steels, after ordinary hardening, high-temperature heat-mechanical treatment (VTMO) and low-temperature heat-mechanical treatment (NTMO) plus low-temperature tempering possess a reduced value of yield point at high value of tensile strength. The low yield point is explained by the presence of a considerable quantity of residual austenite. In the process of deformation during determination of the tensile strength the residual austenite apparently is transformed into martensite and therefore the tensile strength reaches high values. The use of sub-zero treatment, which induces the transformation

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USSR

CHELYSHEVA, A. A., et al., IVUZ Mashinostroyeniye, No 1, Jan 70, pp 117-122

of residual austenite into martensite, considerably increases the yield point from 67 kg/mm² to 140 kg/mm² after hardening in steel 40Kh3G6S with a small increase in the tensile strength. The comparison of mechanical properties of studied steels after hardening, VTMO, NTMO and low temperature tempering at equal quantity of residual austenite shows that heat-mechanical treatment, particularly NTMO, increases the strength properties of steels. Hydroerosion tests show that steels 40Kh3G6S and 50Kh3G6S possess a considerably high resistivity to jet-impact erosion. At that, the difference between resistance after hardening and low temperature tempering and hardening, sub-zero treatment and low temperature tempering is insignificant regardless of the fact that in the latter case the quantity of martensite is much higher. It is shown that the deformation of steels 40Kh3G6S and 50Kh3G6S under VTMO and particularly under NTMO increases the quantity of residual austenite as compared to ordinary hardening. This is due to lowered transformability of supercooled and deformed austenite into martensite. Likewise, the resistance to jet-impact erosion of these steels significantly increased after VTMO but particularly after NTMO, as compared to ordinary hardening and tempering. This increase in the resistance to hydroerosion due to VTMO and NTMO is traced to high degree of work hardening of austenite obtained as a result of deformation during VTMO and NTMO and to its partial transformation into martensite.

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Acc. Nr.

AT0049568

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code

480148

102872q Effect of combined methods of thermomechanical treatment on the properties of structural steel. Virakhovskii, Yu. G.; Gurevich, Yau. B.; Krupin, A. V.; Entin, R. I. (Mosk. Inst. Stali Splavov, Moscow, USSR). *Izv. Vyssh. Ucheb. Zaved., Chern. Met.* 1970, 13(1), 147-50 (Russ). The results are given of production and lab. comparative studies of the heat treatment of steel KhNMS (C 0.32, Cr 1.02, Ni 5.20, Mo 0.70, Si 0.87, Mn 0.38%; $A_{c1} = 715^\circ$, $A_{c3} = 790^\circ$) austenitized at 900° and tempered at 200° for 1 hr. High-and-low (deformation at 850° with 30% redn. in a single pass followed by ~67% combined redn. in 6 passes at 500°) and stepped heat treatment (30% redn. at 850° in a single pass followed by 30% redn. at 750° in a single pass and 30% redn. at both 650° and 500° in 2 passes) both gave more favorable strength and plasticity properties than quenching in water from 850° , and high- and low-temp. heat treatment individually. The practical possibilities of combined heat treatment are discussed. R. Hardbottle

REEL/FRAME

19801446

USSR

UDC: 681.3.06:51

GUREVICH, Ye. I., POSOKHOV, I. N.

"An Interrupt System and its Realization on the BESM-4 Computer"

V sb. Vychisl. tekhn. i vopr. kibernet. (Computer Technology and Problems of Cybernetics--collection of works), vyp. 8, Leningrad, Leningrad University, 1971, pp 137-147 (from RZh-Matematika, No 11, Nov 71, Abstract No 11V841)

Translation: The paper describes the functions of external and internal interruptions performed by an operational system for the BESM-4 computer. In developing the system of interruptions, the authors utilized the principle of minimum alterations and additions to the machine circuits, which requires programmed realization of the various functions of the system of interruptions. The interrupt system developed at the Computer Center of Moscow State University is used on the BESM-4 in an operational system with the TA-IM translator. It is noted that in addition to increased convenience and effectiveness of utilization of the TA-IM, there has been a sharp increase in the productivity of the computer in handling problems which require frequent attendance by a human operator.

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USSR

UDC: 681.3.06:51

GUREVICH, Ye. I., POSOKHOV, I. N.

"An Interruption System and its Realization on the BESM-4 Computer"

V sb. Vychisl. tekhn. i vozz. kibernet. (Computer Technology and Problems of Cybernetics--collection of works), vyp. 8, Leningrad, Leningrad University, 1971, pp 137-147 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V842)

Translation: The paper describes the functions of external and internal interruptions implemented by an operational system for the BESM-4 Computer. In developing the system of interruptions, the principle of minimum changes and additions to the machine circuits is selected, which requires programmed realization of certain functions of the interruption system. An interruption system developed at the Computing Center of Moscow State University is used on the BESM-4 computer working with an operational system with problems of the TA-1M translator. It is noted that in addition to improving convenience and effectiveness of utilization of the TA-1M, there was a sharp increase in the productivity of the machine in processing of problems requiring frequent attention by a human operator.

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1/2 006 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POSSIBLE USE OF VARIOUS PRINCIPLES OF IMPROVING THE ADHERENCE OF
PRINTING INKS FOR METALS AND GLASS -U-
AUTHOR-(04)-GUREVICH, YE.I., KARPILOVSKIY, P., POLYAKOV, V., GRINEVA, YE.

COUNTRY OF INFO--USSR

SOURCE--POLIGRAFIYA 1970, (2), 33-5

DATE PUBLISHED-----70

SUBJECT AREAS--METHODS AND EQUIPMENT

TOPIC TAGS--PRINTING INK, ALUMINOSILICATE GLASS, ADHESION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3006/0725

STEP NO--UR/0543/70/000/002/0033/0035

CIRC ACCESSION NO--AP0134460

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134460
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF
POLY(ALUMINOPHENYLSILOXANE) AS THE HARDENER FOR EPOXY RESINS USED IN
PRINTING INKS FOR NONPOROUS SURFACES IS DESCRIBED.

UNCLASSIFIED

Acc. Nr: **AP0040972**

Ref. Code: UR 0422

PRIMARY SOURCE: Standarty i Kachestvo, 1970, Nr 1, pp 51-54

Economically Best Quality of Carbide Tools. Ye. I. Gurevich. "Standarty i kachestvo". 1970, No. 1.

Economic aspect of quality of industrial products is considered using the example of metal-ceramic alloys and the application of the latter for the manufacturing of metal-cutting, metal-forming and rock-drilling tools.

The data presented are based on a study of the expenses in the alloy production as correlated to the product's weight, its shape complexity, and the level of operational properties of the tool material. Operational economy, expenses in the tool application, and the total capital investment are characterized as functions of the tool quality.

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REEL/FRAME
19750711

USSR

UDC 577.472;542.98;667.61

DOLGOPOL'SKAYA, M. A., GUREVICH, Ye. S., GEYNE, Ye. I., SHCHERBAKOVA, L. I.

"Concerning the Procedure of Accelerated Tests on Antifouling Paints"

Kiev, Biologiya Morya -- Sbornik (Biology of the Sea--Collection of Works),
No 18, The Biology of Fouling, 1970, pp 52-60

Abstract: During the development of new antifouling coatings, it is of great significance to establish the biological activities of the employed poisons as well as the rate and duration of their leaching out into sea water. The biological method of determining the effectiveness of paint, in distinction from the glycine method, permits the evaluation of any kind of paint, including those not containing copper compounds. Use of the hay bacillus or marine bacteria as an object of biological control may serve as a method of the comparative evaluation of effectiveness only for paints with a different film-forming base, but with identical composition of the poisons. As a test object for testing paint activity, the authors propose the use of daphnia,

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USSR

DOLGOPOL'SKAYA, M. A., et al., Biologiya Morya -- Sbornik, No 18, 1970,
pp 52-60

cultured and adapted to water of 6‰ salinity. This method gives convincing results and may be used for evaluating the biological activity of paints the year round in a region far from the sea. 2 tables. 6 bibliographic entries.

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USSR

UDC 667.61:577.472

DOLGOPOL'SKAYA, M. A., GUREVICH, Ye. S., DEGTYAREV, P. F.

"Testing Antifouling Paints under Tropical Conditions"

Kiev, Biologiya Morya -- Sbornik (Biology of the Sea -- Collection of Works), Vol 18, The Biology of Fouling, 1970, pp 40-52

Abstract: In the article are presented the results of tests on new antifouling paints under stationary conditions in the Gulf of Mexico in the Havana region as well as on two ocean-fishing ships, the "G.Uspenskiy" and the N. Ostrovskiy," traveling in the waters of the Atlantic Ocean (17 - 23°S and 5° W). Out of a large assortment of antifouling paints, the best results under tropical conditions were obtained in the testing of thermoplastic paint TPK-86, KR-24, KhV-53, KF-751, KhV-71, and KhS-79. These paints afford reliable protection against fouling not only in the Black Sea, but also under tropical conditions. The best results, both with respect to protection against fouling and with respect to film stability, were obtained as a result of the use of new synthetic-base antifouling paints. It was established that the effectiveness of antifouling paint is determined not only by

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USSR

DOLGOPOL'SKAYA, M. A., et al., Biologiya Morya -- Sbornik, Vol 18, 1970,
pp 40-52

a sufficient leaching-out rate of the poisons, but also by the reserve of the poisons in the coating. With a high leaching-out rate of the poison and a small reserve of it in the paint, it is rapidly expended and the paint becomes fouled. Under tropical conditions there is observed a higher leaching-out rate of the poison and a lower resistance of the fouling-organism larvae to the poisons. 2 tables. 20 figures. 5 bibliographic entries.

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USSR

BASS, F. G., VATOVA, L. B., GUREVICH, Yu. G., Institute of Radio Physics and Electronics, UkrSSR Academy of Sciences, Khar'kov

"Propagation of Electromagnetic Waves in Conductors With Nonstandard Law of Electron Dispersion"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 10, Oct 73, pp 3053-3061

Abstract: The authors investigate various types of waves which may propagate in semiconductors with a nonstandard law of dispersion. It is shown that under certain conditions deviation from the quadratic law of dispersion for certain incident wave amplitudes leads to a situation where the fundamental and harmonics propagate in the semiconductor at a velocity which coincides with that of the wave in the linear theory.

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USSR

UDC 669.11-154:094.1.23:295

VARNAVSKIY, I. N., GUREVICH, Yu. G., and KAMYSHEV, G. N., Orenburg Polytechnic Institute, Orsk-Khalilov Metallurgical Combine

"Formation of Nonmetallic Inclusions In the Deoxidation of Iron With Titanium"

Moscow, Izvestiya Uchebnykh Vysshikh Zavedeniy--Chernaya Metallurgiya, No 6, Jun 73, pp 53-56

Abstract: An iron rod 5.0-6.0 mm in diameter and 65 mm long was placed in a magnesite crucible and heated in a resistance furnace to 1570°C where titanium was added to the metal surface through a quartz tube. Melting was sustained from 5 to 15 min. after which the crucible was removed from the furnace and quenched in water. Titanium was added so that its distribution along the rod length was 0 to 0.3-1.5%. Oxygen and nitrogen content in the initial samples was equal, which made it possible to study the composition and nature of inclusions for the different concentrations of titanium, oxygen, and nitrogen in the iron. It was found that the primary products from reduction of iron with titanium are molten oxides of the type $n\text{FeO} \cdot m\text{TiO}_2$. According to the degree of increasing the ratio of Ti/O_2 , solid Ti_2O_3 and TiO are crystallized from the melt, and with high concentrations of nitrogen-- TiN (solid). Since solid crystals of inclusions of oxides and titanium nitride separate out on molten

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- USSR

VARNAVSKIY, I. N., et al., Izvestiya Uchebnykh Vysshikh Zavedeniy--Chernaya Metallurgiya, No 6, Jun 73, pp 53-56

particles and oxide films, then the heterogeneous nucleation of refractory oxides and nitrides of titanium in the molten steel is possible under specified conditions. 3 figures, 1 table, 9 bibliographic references.

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Miscellaneous

USSR

UDC 669.12-154:669.295:669.787:669.786:541.8

GUREVICH, Yu. G., Zlatoustovsk Affiliate of Chelyabinsk Polytechnic Institute

"Solubility of Titanium, Oxygen and Nitrogen in Molten Iron"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 42-45

Abstract: A procedure is developed for determining the solubilities of nitride-forming metal, oxygen and nitrogen in iron based on dissolution of a tablet of metal nitride in the melt. Dissolution is done in the kinetic mode, which enables attainment of equilibrium in the system within 30-60 seconds. Since the products of reduction precipitate on the nitride, their composition can be readily determined. Constants of solubility are found for titanium oxide and nitride in iron (0.03% titanium or less) at temperatures of 1550-1630°C. The temperature dependences of the constants are found.

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USSR

UDC 669.15'295-194

GUREVICH, YU. G., and FRAGE, N. R., Orenburg, Zlatoust

"On the Interaction of Titanium-Containing Steels with Atmospheric Air"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 105-108

Abstract: A thermal analysis was conducted of the formation reactions of titanium nitrides in liquid stainless steel as a result of interaction of dissolved titanium with nitrogen of the gaseous phase and with nitrogen dissolved in steel. On the basis of previously derived experimental data and using equations characterizing the cause of reactions, the isotherms of quasi-equilibrium of Ti with N and O dissolved in Kh18Ni10 stainless steel at 1600°C were plotted, as was the dependence between Ti and N concentration in this steel deoxidized with Al up to 0.0014-0.0016% of O content at 1600°C. With the interaction of liquid steel with air, titanium is oxidized by oxygen; therefore its interaction with N is not very likely. Titanium nitrides, which are stable up to 0.03-0.04% titanium concentration, can separate from deoxidized liquid stainless steel at 1600°C and below at certain Ti and N concentrations. Two figures, three tables, ten formulas, seven bibliographic references.

1/1

USSR

UDC 546.821'17+546/46'21

KHRUSTALEV, B. N., LEONOVICH, B. I., GUREVICH, YU. G., and NEVRAYEV, YU. P.

"Interactions in the Titanium Nitride-Magnesium Oxide System"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 8,
No 5, 1972, pp 846-848

Abstract: The solid-phase interaction in the system TiN-MgO is studied. The end product of this interaction is $\alpha\text{-Ti}_2\text{O}_3$; the interaction occurs with the formation of an intermediate product, a TiO-MgO solid solution, which decomposes into $\alpha\text{-Ti}_2\text{O}_3$. The coefficients of diffusion of titanium through the phases $\alpha\text{-Ti}_2\text{O}_3$ and MgO are determined.

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- 40 -

USSR

UDC 669.046.5

GUREVICH, Yu. G., D'YAKONOV, V. M.

"Removal of Titanium Nitrides From Liquid Steel"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS). (Collection of Works. Modern Problems of Steel Quality)(Moscow Institute of Steel and Alloys) Izd-vo "Metallurgiya," No 61, 1970, pp 51-53

Translation of Abstract: Results are presented of an analysis of separate stages of the process of removing impurities from liquid steel. The floating of titanium nitrides into slag under the effect of convective flows is considered. The results of a study on the kinetics of titanium nitrides solution in slags of various composition are presented. 2 figures, 2 references.

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- 47 -

Titanium

USSR

GUREVICH, YU. G., Zlatoust Branch, Chelyabinsk Polytechnic Institute

"Solubility of Titanium Nitride in Kh18N10 Steel"

Novokuznetsk, IVUZ-Chernaya Metallurgiya, No 6, 1971, pp 12-14

Abstract: Ingots and billets of stainless steels containing titanium are infected with defects which are associated with accumulations of titanium nitride inclusions, liberated in the molten melt. Therefore, interest exists in obtaining qualitative data on the solubility of titanium and nitrogen in the molten alloy. A method based on dissolving samples of titanium nitride in a molten alloy was used for determining the solubility of titanium and nitrogen in the steel.

The steel (100-120 g) was placed in a magnesite crucible and heated in a resistance furnace in an atmosphere of purified argon to 1570-1630°C. Next, the alloy was deoxidized with aluminum (almost 0.3%) and titanium added (0.07-1.90%). Titanium nitride pellets (74.4-80.5% Ti, 19.5-22.6% N) were fastened to a molybdenum spindle and submerged in the melt and rotated for five minutes at an angular velocity of 10-13,000 rpm.

Dissolving of titanium nitride in a melt with 0.011% N at 1570 and 1600°C stops when the concentration of titanium reaches 0.2 and 0.7%,
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USSR

GUREVICHM YU. G., IVUZ-Chernaya Metallurgiya, No 6, 1971, pp 12-14

respectively. At 1630°C the nitrides of titanium are dissolved in Kh18M10 steel even for a high (up to 2.5%) content of titanium. From isotherms it was possible to determine the composition of steel deoxidation products by titanium in relation to the concentration of oxygen in the steel. Three figures, one table, five bibliographic references.

2/2

- 77 -

Conferences

USSR

BASS, F. G., BARANSKIY, P. I., GUREVICH, YU. G., KOROLYUK, S. L., POTYKEVICH, I. V., SAMOYLOVICH, A. G.

"All-Union Conference on the Physics of Semiconductors in Strong Magnetic and Electric Fields"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 3, March 1971, pp 587-591

Abstract: This article contains brief reviews of the reports given at the All-Union Conference on the Physics of Semiconductors in Strong Magnetic and Electric Fields and held by the Scientific Council on Physics and Chemistry of Semiconductors of the USSR Academy of Sciences, the Institute of Physics of Metals of the USSR Academy of Sciences and the Problem Scientific Research Laboratory of Anisotropic Semiconductors of the Chernovtsy State University from 14 to 17 October 1970, in Chernovtsy.

The reports were concentrated around the following problems: 1) kinetic phenomena in semiconductors in strong magnetic fields; 2) kinetic and optical phenomena in strong electric and magnetic fields; 3) electron-hole plasma in strong electric and magnetic fields; 4) electric instabilities

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BASS, F. G., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 3, March 1971, pp 587-591

in strong fields; 5) dimensional effects and volt-ampere characteristics. Seventy-six reports were given. The next conference, which will be participated in by the member countries of the CEMA, will be held in September-October 1971, in Leningrad.

2/2

USSR

BASS, F. G., GUREVICH, YU. G., and CHAVCHANIDZE, O. N., Institute of Radiophysics and Electronics, Academy of Sciences UkrSSR, Khar'kov; Institute of Cybernetics, Academy of Sciences Georgian SSR, Tbilisi

"Nonlinear Propagation of Low-Frequency Spiral Waves in Semiconductors"

Leningrad, Fizika Tverdogo Tela, Vol. 12, No. 8, Aug 70, pp 2365-2370

Abstract: The passage of a low-frequency spiral wave pulse incident on a semi-infinite semiconductor is studied. The authors had previously developed a theory of nonlinear propagation of electromagnetic waves with a frequency $\omega > \nu_e$, where ν_e is the frequency of collisions between current carriers and the scattering centers with energy transfer. This article studies the case of propagation of strong electromagnetic waves with a frequency $\omega \leq \nu_e$ and is limited to weakly attenuating waves which are of two types: a wave propagating in a semiconductor in the absence of a magnetic field and a spiral wave. If the magnetic field is absent, the wave length in the semiconductor is determined by the formula

$$\lambda = c/\omega\sqrt{\epsilon_0}^{1/2},$$

where ϵ_0 is the dielectric permeability of the lattice and c is the velocity of light

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BASS, F. G., et al, Fizika tverdogo tela, Vol. 12, No. 8, Aug 70, pp 2365-2370

in a vacuum. In typical semiconductors with one type of carrier $\epsilon_0 \sim 16$ and $\nu_e \sim 10^9 \text{ sec}^{-1}$, and therefore the frequency of the wave must be 10^8 sec^{-1} . The wave length λ is then equal to approximately 10^2 cm and the attenuation is at least an order greater; for any realistic sample dimensions the problem does not have any sense and therefore only the spiral wave remains. It is shown that the frequency width of the wave pulse is compressed under some mechanisms for the scattering of an electron pulse due to heating of the electrons and the width expands under other scattering mechanisms. If electrons are scattered by acoustical phonons, heating of the carriers leads to a sharp compression of the frequency width of the pulse. It is also shown that the propagation of the basic harmonic of a monochromatic spiral wave of low frequency is described by formulas for the propagation of a high-frequency spiral wave.

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USSR

G

UDC 669.14.018.8:650.502

KAS'YANOV, A. G., GUREVICH, YU. G., MARKELOV, A. I., SEDOROV, N. V., GERASIMOV, IG. V., KHASIN, G. A., CHISTYAKOV, S. L., POLYAKOV, YU. V., LEBEDEVA, V. N., Chelyabinsk Polytechnical Institute and Klatoust Metallurgical Plant

"Quality of Stainless, Low-Carbon Steel"

Moscow, Metallurg, No 5, May 70, pp 17-19

Abstract: A stainless, low-carbon steel developed at the Klatoust Metallurgical Plant is described. The carbon content of this steel is less than 0.030%, and the steel is made in open arc furnaces using metal electrodes or by scavenging the liquid steel with argon. Comparisons were made between this steel and a similar metal made in vacuum induction furnaces. A table gives the impurities in the various types of steel produced by the two methods -- the use of metal electrodes and argon scavenging. An analysis of the results of a quantitative estimate of impurities showed that owing to the high degree of deformation, the contamination along the transverse axis of the steel sheet is less than that along the longitudinal axis. The mechanical

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KAS'YANOV, A. G., et al., Metallurg., No 5, May 70, pp 18-19

characteristics of the steel satisfied all technical requirements. A comparison of the mechanical characteristics of this steel made by the three processes discussed -- metallic electrodes, argon scavenging, and vacuum induction -- is also presented.

2/2

USSR

GURAVICH, Ya. G., LONTOV, V. I., FRANK, N. R., and KIM, V. V., Institute of Metallurgy,
of Chelyabinsk Polytechnical Institute

"Kinetics of Interaction of Titanium and Aluminum Nitrides With Slag Melt."

Novokuznetsk, Izv. VUZ, Chern. Metallurgiya, No 10, 1970, pp 16-17

Abstract: It is demonstrated experimentally that TiN interacts with the oxides of iron and manganese from slag, while AlN reacts with silica as well. The activation energies of the process of solution of TiN and AlN in slag melt are found. When metals are reduced from these oxides by nitrides, gaseous nitrogen is released, which may be dissolved in the liquid metal. The rate of the process of interaction of nitrides with slags containing oxides of iron, manganese, and silicon is rather high.

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1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--QUALITY OF STAINLESS, LOW CARBON STEEL -U-

AUTHOR-(05)-KASYANOV, A.G., GUREVICH, YU.G., MARKELOV, A.I., SIDOROV,
N.V., GERASIMOV, YU.V.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, METALLURG., NO 5, MAY 70, PP 17-19

DATE PUBLISHED----MAY70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--LOW CARBON STEEL, STAINLESS STEEL, METALLURGIC PLANT,
MECHANICAL PROPERTY, ARGON SCAVENGING, VACUUM MELTING, HIGH QUALITY
STEEL, ARC FURNACE, FERROUS LIQUID METAL, INDUCTION FURNACE, STEEL
IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3007/0409

STEP NO--UR/0130/70/000/005/0017/0019

CIRC ACCESSION NO--AP0135881

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0135881

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STAINLESS, LOW CARBON STEEL DEVELOPED AT THE ZLATOUS METALLURGICAL PLANT IS DESCRIBED. THE CARBON CONTENT OF THIS STEEL IS LESS THAN 0.030PERCENT, AND THE STEEL IS MADE IN OPEN ARC FURNACES USING METAL ELECTRODES OR BY SCAVENGING THE LIQUID STEEL WITH ARGON. COMPARISONS WERE MADE BETWEEN THIS STEEL AND A SIMILAR METAL MADE IN VACUUM INDUCTION FURNACES. A TABLE GIVES THE IMPURITIES IN THE VARIOUS TYPES OF STEEL PRODUCED BY THE TWO METHODS, THE USE OF METAL ELECTRODES AND ARGON SCAVENGING. AN ANALYSIS OF THE RESULTS OF A QUANTITATIVE ESTIMATE OF IMPURITIES SHOWED THAT OWING TO THE HIGH DEGREE OF DEFORMATION, THE CONTAMINATION ALONG THE TRANSVERSE AXIS OF THE STEEL SHEET IS LESS THAN THAT ALONG THE LONGITUDINAL AXIS. THE MECHANICAL CHARACTERISTICS OF THE STEEL SATISFIED ALL TECHNICAL REQUIREMENTS. A COMPARISON OF THE MECHANICAL CHARACTERISTICS OF THIS STEEL MADE BY THE THREE PROCESSES DISCUSSED, METALLIC ELECTRODES, ARGON SCAVENGING, AND VACUUM INDUCTION, IS ALSO PRESENTED. FACILITY: CHELYABINSK POLYTECHNICAL INSTITUTE. FACILITY: ZLATOUS METALLURGICAL PLANT.

UNCLASSIFIED

Acc. Nr:

AP0047610

Abstracting Service:

INTERNAT. AEROSPACE ABST.

Ref. Code:

5-9 UR 0141

A70-25156 #

Propagation of strong electromagnetic waves of arbitrary polarization in nonlinear media (Rasprostraneniye sil'nykh elektromagnitnykh voln proizvol'noi polarizatsii v nelineinykh sredakh). F. G. Bass and Yu. G. Gurevich. (Akademiia Nauk Ukrainskoi SSR, Institut Radiofiziki i Elektroniki, Kharkov, Ukrainian SSR). *Radiofizika*, vol. 13, no. 2, 1970, p. 243-250. 7 refs. In Russian.

IZVVT

Investigation of the propagation of electromagnetic waves in a nonlinear medium for the case where a plane wave of arbitrary polarization is normally incident on a sharply defined vacuum-plasma interface. Wave propagation is examined in the presence of a constant magnetic field; the nonlinearity of the plasma medium is caused by heating of the electron gas—in this case, the permittivity of the medium is a function of wave amplitude. Mathematically, the problem is reduced to the solution of systems of Maxwell equations and nonlinear heat balance equations. It is shown that in a zero approximation with respect to a small parameter associated with the low degree of damping, the medium contains two waves propagating with refractive indices and damping coefficients corresponding to normal waves in a linear medium.

T.M.

REEL/FRAME

19791176

USSR

UDC 77

BARSHCHEVSKIY, B. U., GUREVICH, YU. YA.

"Effect of the Disappearance of a Hidden Image in the Light of the Quantum Theory of Photoemission"

V sb. Mezhdunar. kongress po fotogr. nauke, Moskva, 1970, Priroda fotogr. chuvstvitel'nosti (International Congress on Photographic Science, Moscow, 1970, Nature of Photographic Sensitivity -- Collection of Works), no place of publication given, Vneshtorgizdat, no year given, pp 175-178 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12D1357)

Translation: The possibility of applying the quantum theory of photoemission from a metal into a dielectric to describe the Herschel effect interpreted as photoeffect from metallic particles of Ag (centers of the hidden image) in AgHal dielectric crystals is discussed. Using a general formula from this theory for the spectral dependence of photocurrent and selecting probable values for the parameters entering into it, the authors have obtained good agreement between

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USSR

BARSHCHEVSKIY, B. U., GUREVICH, YU. YA., Mezhdunar. kongress po fotogr. nauke

Moskva, 1970, Priroda fotogr. chuvstvitel'nosti, no place of publication given, Vneshtorgizdat, no year given, pp 175-178

calculated and experimental data for AgCl and AgBr crystals. It is concluded from this that the centers of the hidden image under the experimental conditions called upon for a comparison with the calculation are multiatomic formations of the metallic type. A. L. Kartuzhanskiy.

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1/2 022 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RELATION OF THE HERSCHEL EFFECT WITH ELECTRON PHOTOEMISSION -U-
AUTHOR-(02)-BARSHEHEVSKIY, B.U., GUREVICH, YU.YA. 6
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 115-18
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTOEFFECT, DIELECTRIC MATERIAL, ELECTRON EMISSION, PHOTO
EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1792 STEP NO--UR/0020/70/191/001/0115/0118
CIRC ACCESSION NO--AT0125404
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0125404

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE HERSCHEL EFFECT, LATENT
IMAGE CENTERS ABSORB LONG WAVELENGTH LIGHT AND EMIT ELECTRONS.
PUBLISHED DATA ON THE VARIATION IN PHOTOEMISSION WITH FREQUENCY AGREE
WITH THE QUANTUM THEORY OF PHOTOEMISSION AT THE BOUNDARY OF A METAL AND
A DIELEC. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

UNCLASSIFIED

2/3 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132797

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUCCESS ACHIEVED IN RECENT YEARS IN TREATING PATIENTS WITH MYOCARDIAL INFARCTION HAS UNDOUBTEDLY HAD AN INFLUENCE ON THE DEFINITE STABILITY IN THE INDICES OF MORTALITY OF MYOCARDIAL INFARCTION IN KHAR'KOV IN THE 1961-1967 PERIOD. AS KONIG (1966, WEST GERMANY) WRITES, AT THE PRESENT TIME THE CHANCES THAT A MAN WHO HAS CONTRACTED MYOCARDIAL INFARCTION WILL RECOVER AND RETURN TO USEFUL ACTIVITY HAS INCREASED THREEFOLD OVER WHAT WAS OBSERVED 30 YEARS AGO. IT IS ALSO BEYOND DISPUTE THAT BY SYSTEMATICALLY STUDYING THE MORBIDITY AND MORTALITY RATES OF MYOCARDIAL INFARCTION IN KHAR'KOV YEAR AFTER YEAR, WE HAVE IMPROVED THE METHOD OF GATHERING MATERIAL, AND TO A CERTAIN EXTENT THIS HAS HELPED TO MAKE RECORDS MORE COMPLETE. RECORDS ON PATIENTS WITH MYOCARDIAL INFARCTION IN KHAR'KOV, WHICH HAVE IMPROVED YEAR AFTER YEAR, HAVE ALSO ENSURED MORE KNOWLEDGE ON THE PART OF PHYSICIANS OF THE CLINICAL ASPECTS OF THIS ILLNESS AND EXPANDED OPPORTUNITIES FOR RUNNING EKG, BIOCHEMICAL AND OTHER TESTS ON PATIENTS AND THE PUBLIC, AND THIS HAS HELPED TO INCREASE THE QUALITY OF DIAGNOSIS. HOSPITALIZATION OF PATIENTS WITH MYOCARDIAL INFARCTION HAS THEREFORE BEEN EARLIER AND MORE FREQUENT. THIS FACT HAS ALSO BEEN FAVORED BY THE INCREASE IN KHAR'KOV OF ESTABLISHMENTS SPECIALIZING IN SERVICE TO PATIENTS WITH MYOCARDIAL INFARCTION (THE CITY CITY CARDIORHEUMATOLOGY DISPENSARY WITH INFIRMARY, THE SPECIALIZED INFARCTION DEPARTMENT OF HOSPITAL NO 27, SPECIALIZED EMERGENCY MEDICAL AID FOR PATIENTS WITH MYOCARDIAL INFARCTION, ETC.).

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3/3 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132797

ABSTRACT/EXTRACT--FACILITY: CHAIR OF SOCIAL HYGIENE AND PUBLIC HEALTH
ORGANIZATION, HEAD, PROFESSOR Z. A. GUREVICH, OF KHAR'KOV MEDICAL
INSTITUTE.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EVALUATING THE EFFECTIVENESS OF ANTIOXIDANT ADDITIVES TO GASOLINES
-U-
AUTHOR-(04)-GUREYEV, A.A., BOGERUK, L.G., KUZMINA, N.A., DENIDENKO, K.A.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 2-4
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--GASOLINE, FUEL ADDITIVE, ANTIOXIDANT ADDITIVE, THERMAL
CRACKING, CYCLOHEXENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1520

STEP NO--UR/0318/70/000/002/0002/0004

CIRC ACCESSION NO--AP0118507

UNCLASSIFIED

2/2 025
CIRC ACCESSION NO--AP0118507

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CYCLOHEXENE (I) WAS USED AS A
STD., INSTEAD OF GASOLINE FOR THERMAL CRACKING, TO DET. THE ANTIOXIDANT
EFFECTIVENESS BY AN OXIDN. TEST AT 100DEGREES. FOR INDUCTION PERIODS OF
SMALLER THAN 400 AND LARGER THAN 400 MIN, THE DIFFERENCES BETWEEN 2
DETNS. WERE SMALLER THAN 15 AND SMALLER THAN 30 MIN, RESP. AFTER THE
DETN., I WAS RECOVERED BY DISTN. AND REUSED.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INVESTIGATION OF THE CRYSTAL PERFECTION BY THE SINGLE CRYSTAL
SPECTROMETER IN THE LAUE DIFFRACTION CASE -U-
AUTHOR--(04)-SKORUKHOV, M.YA., DATSENKO, L.I., GUREYEV, A.N., VASILKOVSKIY,
A.S.
COUNTRY OF INFO--USSR
SOURCE--UKRAYIN. FIZ. KH. (USSR), VOL. 15, NO. 5, P. 789-98 (MAY 1970)
DATE PUBLISHED----MAY 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL DIFFRACTION SPECTROMETER, SINGLE CRYSTAL PROPERTY,
CRYSTAL DEFECT, X RAY SPECTRUM, ABSORPTION EDGE, RADIATION INTENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/1798

STEP NO--UR/0185/70/015/005/0789/0797

CIRC ACCESSION NO--AP0133703

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133703
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE POSSIBILITY OF THE INVESTIGATIONS OF THE CRYSTAL PERFECTION BY A SINGLE CRYSTAL SPECTROMETER WAS SHOWN. THE DIFFERENT FACTORS WHICH CAN INFLUENCE THE MEASURED INTENSITIES ARE DISCUSSED. A GOOD AGREEMENT BETWEEN THE INTEGRAL FACTORS OF THE ANOMALOUS TRANSMISSION PI SUB1 MEASURED BY A SINGLE AND DOUBLE CRYSTAL SPECTROMETER WAS OBTAINED. THESE MEASUREMENTS WERE CARRIED OUT ON THE CHARACTERISTIC AND CONTINUOUS X RAY SPECTRA. THE VALUES CHI SUBIH1 AND CHI SUBIH2 WHICH ARE RELATED TO THE SHORT AND LONG WAVE REGIONS OF K EDGE OF ABSORPTION RESPECTIVELY, WERE FOUND FROM THE LOGARITHM DEPENDENCE OF THE INTENSITY JUMPS UPON THE CRYSTAL THICKNESS. THESE VALUES ARE IN GOOD AGREEMENT WITH THE DATA OBTAINED FROM THE MEASUREMENTS PI SUB1 MADE BY THE DOUBLE CRYSTAL SPECTROMETER.

UNCLASSIFIED

EAST GERMANY / SOVIET UNION

BRODER, D. L., GUREEV, V. I., and KOZLOVSKII, S. A., Institute for Physics and Power Engineering, G. Obninsk, Kaluzhskaya Oblast), Obninsk, USSR.

"On the Passage of Gamma Rays Through Heterogeneous Media"

East Berlin, Kernenergie, Vol 14, No 4, Apr 1971, pp 121-124.

Abstract: [Russian article] [Authors' English summary, modified] Calculations of gamma rays flowing through heterogeneous media imply knowledge of effective absorption coefficients and buildup factors for all types of shielding. ^{137}Cs and ^{60}Co gamma-ray attenuation functions were studied experimentally in water shields containing insertions of variable-diameter rods. The spacing between rods was varied also. Semiempirical relations were proposed on the basis of the gamma-ray doses measured. These relations are useful for calculating the topography of radiation fields in the case of point or line sources. Eight references, including 1 German, 1 Western, and 6 Russian. (Manuscript received 26 Oct 1970).

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USSR

UDC: 541.183

G
GURFEYN, N.S., DOBYCHIN, D.P., KOPLIYENKO, L.S., All-Union Scientific Research
Institute of Petrochemical Processes, Leningrad, State Committee for the Fuel
Industry USSR

"Computation of the Increase in Adsorption Energy in Pores of Molecular Dimensions
for the Model Case of Nonspecific Nonlocalized Adsorption"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 3, Mar 70, pp 741-746

Abstract: A method is proposed for calculating the energy of nonspecific adsorption in pores of molecular dimensions for an idealized model, and the corresponding computer calculations and solutions are given. The picture of change in the shape of the potential curves is followed as the size of the pores approaches that of the molecules. It is shown that the bottom of a potential well shifts as a result of a change in adsorption energy, as well as a change in the distance of the molecule from the wall. A conclusion is drawn on the possibility of effects of apparent reduction in the pore volume and nonhomogeneity of pore dimensions when the molecular probe method is used. It is noted that the calculated value of the maximum energy in pores of molecular dimensions coincides satisfactorily with the experimentally observed values. The effect which nonhomogeneity of pore distribution with respect to size has on the integral energy of nonspecific adsorption on molecular sorbents is studied.

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GURFINK, A.M.

1185 60372
19 Nov 73

(20)

SCATTERING OF THE 3-PULSE FROM A PENCIL BEAM IN THE SEA

[Article by A. M. Gurfink and B. A. Kargin, Leningrad, Soviet Journal of Atmospheric and Space Physics, 1973, pp. 62-70]

In investigations of non-stationary light fields arising during the work of sighting and location systems, an important place is occupied by the question of the preparation of 3-pulse from a narrowly directed radiation source. (To obtain the shape of the signal received by a receiver during an impinging pulse different from a 3-pulse, it is sufficient to introduce an operation of integration of the type of taking with the use of the scattering function of the 3-pulse. This is much more precise and simpler than modelling a signal extended in time.)

A considerable number of theoretical and experimental works have recently appeared in which studies have been made of the laws of light fields arising during the illumination of scattering and absorbing media by short narrowly directed signals (1-3). However, with reference to specific conditions of sea water that question remains open. In the present paper the scattering of 3-pulses from a narrowly directed radiation source in the sea is investigated, the main attention being given to the time and angular structure of the light field.

Precise analytical solution of the equation of radiation transfer for a stationary and non-stationary narrow beam with a strongly peaked indicatrix of scattering is very unsatisfactory and little suited for practical purposes. Therefore the main importance is acquired by numerical methods of computation, and especially the Monte-Carlo method, which also is used in the paper.

In solving the posed task the following stochastic model of light propagation was adopted: radiative energy is transferred by a proton flux, the motion of which can be considered

USSR

UDC 621.791.14:669.14.018.298.3

RUDAKOV, A. S., Engineer (Chelyabinsk Polytechnical Institute), GURFINK,
B. I., KOBZEV, I. F., Engineers, and YERETNOVA, V. M., Engineer
(Chelyabinsk Tractor Plant imeni V. I. Lenin)

"Friction Welding of Heat-Treated Type-45 Steel"

Moscow, Svarochnoye Proizvodstvo, No 10, Oct 70, p 51

Abstract: For some time, special socket wrenches have been manufactured by butt resistance welding of sockets of type-45 steel to a connecting rod of type-20 steel, followed by heat treatment. In order to make better use of equipment and improve heating and hardening modes, it has been suggested that the sockets be heat treated before being welded to the rod. The sockets are then friction-welded to the rod using a machine developed at the plant. This article presents the results of strength and structural testing of the metal in and around the joints thus produced. The properties are satisfactory.

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USSR

UDC 616.8-009.12-089:616.831-089.12-07:616.831.375-008.6-07

VASIN, N. Ya., GURFINKEL', V. S., IL'INSKIY, I. A., and SAFRONOV, V. A., Scientific Research Institute of Neurosurgery imeni N. N. Burdenko, Academy of Medical Sciences USSR, Moscow

"Capsular Effects During Electrostimulation of the Ventrolateral Nucleus of the Optic Thalamus in Stereotaxic Operations for Hyperkinesias"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 9, Sep 70, pp 3-6

Abstract: During surgery of the optic thalamus necessitated by various hyperkinesias, determination of the lateral limits of the ventrolateral nucleus is connected with differentiation of motor reactions occurring during stimulation of the ventrolateral nucleus itself, as well as with reactions resulting from stimulation of the internal capsule. Several methods of registering motor reactions have been used, including electromyography and tremorography. Data are presented on mechanographic and myographic analysis of capsular effects obtained during electrostimulation of the ventrolateral nucleus of the optic thalamus in 32 patients subjected to stereotaxic operations. The operations were conducted under local anesthesia. A needle electrode inserted at a right angle to a depth of 7 mm was used for stimulation. The electrode was moved circularly in 45°
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USSR

VASIN, N. Ya., et al, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 70, No 9, Sep 70, pp 3-6

intervals. The ventrolateral nucleus was stimulated at three levels 3 mm apart. On the basis of the duration of the motor-reaction latent periods it was possible to differentiate capsular responses connected with current loops at the electrode terminals in the central regions of the ventrolateral nucleus from reactions associated with direct stimulation of the internal capsule. Simultaneous mechanographic and myographic registration of the motor reactions from different limbs may also be used, together with other physiological tests, for defining the anteroposterior localization of the electrode terminal in the ventrolateral nucleus.

2/2

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MEDICINE

Aerospace Medicine

USSR

BOGDANOV, V. A., GURFINKEL', V. S., and PANFILOV, V. Ye.

"Changes in Man's Position When Standing Under Conditions of Low Gravity"

Moscow, Biofizika, No 1, 1970, pp 179-183

Abstract: Under conditions of simulated low gravity, human subjects stood and walked bent over, the degree varying with the amount of gravity. This posture was maintained for a long time. The reason for this is that the "decrease in body weight" under the experimental conditions resulted in a weakening of the antigravity activity of the extensors with relative preservation of tension by the flexors. Due to a balancing of the antagonistic muscles, the subjects assumed a new posture characterized by a forward tilting of the trunk and flexion in the joints. The authors expect a stooping position will be the most comfortable for astronauts when standing or walking on the moon.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--CHANGES IN THE HUMAN POSTURE WHILE STANDING UNDER DECREASED
GRAVITATION CONDITIONS -U-
AUTHOR--(03)-BOGDANOV, V.A., GURFINKEL, V.S., PANFILOV, V.YE.

COUNTRY OF INFO--USSR

SOURCE--EIOFIZIKA 15(1): 179-183. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--POSTURE, GRAVITATION EFFECT, MOON

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0919

STEP NO--UR/0217/70/015/001/0179/0183

CIRC ACCESSION NO--AP0125964

UNCLASSIFIED

2/2 C24

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129984

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER SIMULATED SUBGRAVITY CONDITIONS THE POSTURE AND LOCOMOTION OF MAN ARE CHARACTERIZED BY A BENDING POSITION, THE DEGREE OF BENDING DEPENDING ON THE VALUE OF GRAVITY. THIS BENDING POSITION IS MAINTAINED DURING PROLONGED STAYS UNDER THE SAME CONDITIONS. IT CAN BE EXPECTED THAT A CONVENIENT STANCE FOR THE ASTRONAUT ON THE MOON SURFACE WILL BE CHARACTERIZED BY FLEXION IN THE LARGE JOINTS, WHILE THE LOCOMOTION ON THE MOON SURFACE WILL BE OF A DOWN BENDING CHARACTER.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF ARTICULATE MOMENTS DURING LOCOMOTION -U-
AUTHOR-(03)-GURFINKEL, V.S., FOMIN, S.V., SHTILKIND, T.I.
COUNTRY OF INFO--USSR *G*
SOURCE--BIOFIZIKA 15(2): 380-383. ILLUS. 1970
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LAGRANGE EQUATION, ANALOG DIGITAL CONVERSION, MOTION
MECHANICS, MAN, ANATOMY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605006/F08 STEP NO--UR/0217/70/015/002/0380/0383

CIRC ACCESSION NO--AP0139932
UNCLASSIFIED

2/2 021
CIRC ACCESSION NO--AP0139932

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD FOR DETERMINING THE MOMENTS IN JOINTS IN WALKING IN HUMANS AND ANIMALS BASED ON LAGRANGE EQUATIONS IS CONSIDERED. THE ORGANIZATION OF AUTOMATIC CALCULATIONS OF THIS MOMENTS BY THE COMPUTER AND WITH THE ELECTRIC RECORDING OF GONIOGRAMS AND ANALOGUE DIGITAL CONVERTING OF THE DATA ARE DISCUSSED.
FACILITY: MOSCOW PHYS. TECH. INST., MOSCOW, USSR.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CHANGES IN MAN'S POSITION WHEN STANDING UNDER CONDITIONS OF LOW
GRAVITY -U-
AUTHOR-(03)-BOGDANOV, V.A., GURFINKEL, V.S., PANFILOV, V.YE.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, BIOFIZIKA, NO 1, 1970, PP 179-183
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--GRAVITATION, HUMAN PHYSIOLOGY, POSTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0822 STEP NO--UR/0217/70/000/001/0179/0183
CIRC ACCESSION NO--AP0121454
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30JCT70

CIRC ACCESSION NO--AP0121454

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER CONDITIONS OF SIMULATED LOW GRAVITY, HUMAN SUBJECTS STOOD AND WALKED BENT OVER, THE DEGREE VARYING WITH THE AMOUNT OF GRAVITY. THIS POSTURE WAS MAINTAINED FOR A LONG TIME. THE REASON FOR THIS IS THAT THE "DECREASE IN BODY WEIGHT" UNDER THE EXPERIMENTAL CONDITIONS RESULTED IN A WEAKENING OF THE ANTIGRAVITY ACTIVITY OF THE EXTENSORS WITH RELATIVE PRESERVATION OF TENSION BY THE FLEXORS. DUE TO A BALANCING OF THE ANTAGONISTIC MUSCLES, THE SUBJECTS ASSUMED A NEW POSTURE CHARACTERIZED BY A FORWARD TILTING OF THE TRUNK AND FLEXION IN THE JOINTS. THE AUTHORS EXPECT A STOOPING POSITION WILL BE THE MOST COMFORTABLE FOR ASTRONAUTS WHEN STANDING OR WALKING ON THE MOON.

UNCLASSIFIED

Entomology

USSR

MELIKADZE, L. D., MIKADZE, L. D., SHONIYA, D. I., GURGENIDZE, Z. I.,
BARABADZE, Sh. Sh., and AZKHAZAVA, I. I., Georgian Institute of Plant
Protection

"Olfactometry to Evaluate Chemical Attractants"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

Abstract: A description is given of a device used to test attractants of the European spruce bark beetle (*Dendroctonus micans*) and other insects. Unlike other olfactometric methods, it can determine the optimum concentration of an attractant in the air. Air is fed through a thermostat-controlled heating coil and bubbler containing the substance tested. The temperature is controlled to keep the vapor pressure uniform. The air saturated to the same concentration by the vapor of the attractant (working mixture) enters the working part of the olfactometric unit. Both the control and the working parts of the unit are divided into three chambers. The working mixture after entering the olfactometer gradually fills the three chambers and through openings in the bottom of the third chamber diffuses along a platform where the insects are kept. An equal amount of pure air flows from the control part and moves along the platform in the opposite direction, creating a concentration

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USSR

MELIKADZE, L. D., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

gradient along the platform. Depending on the reaction of the insects to the substance, they crawl into the working or control part of the olfactometer. The optimum concentration is determined (a) from a curve showing the dilution of the working mixture at the outlet from the third chamber of the olfactometer and (b) from the dynamics of migration of the insects in time. The optimum concentration is that which attracts the most insects.

2/2

USSR

UDC 632.95

MEKHIAZEB, L. D., KIPIANI, R. YA., KUKHASHAURIYA, A. L., SHONKHA, D. I.,
GURGENIDZE, Z. I., Institute of Physical and Organic Chemistry, Academy of
Sciences of the Georgian SSR, Institute of Plant Protection, Ministry of
Agriculture

"A Chemical for Controlling Large Spruce Bark Beetles"

USSR Author's Certificate No 270390, filed 18 Jan 67, published 9 Apr 71
(from Izv-Khimiya, No 1(II), Jan 72, Abstract No 1125 P)

Translation: The large spruce bark beetle can be effectively controlled
by treating the trunks of trees with a 50% emulsion prepared from a concentrate
containing 5.5-6.0% technical hexachlorocyclohexane, 40-50.5% kerosene, 20-25%
dichloromethane, 2.0% sulfite pulp extract, 0.5% CP-10 or CP-7 and water (to
make 100%). The treatment does not harm the trees. P. V. Popov

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USSR

UDC 532

GURIKOV, Yu. V.

"On the Impossibility, in Principle, of the Propagation of High-Frequency Transverse Waves in Simple Liquids"

V sb. Materialy 3-go rab. soveshch. po statist. fiz. 1971. Ch. 2 (Material from the Third Working Conference on Statistical Physics. 1971. Part 2 -- Collection of Works), Kiev, 1972, pp 50-56 (from RZh-Fizika, No 1, Jan 73, Abstract No 1Ye93)

Translation: It is shown that the propagation of high-frequency transverse waves is impossible in simple liquids with a radially symmetrical molecular potential. The conclusion is based on a study of the linear non-Markov transfer equation and of a study of the equation for the stress tensor obtained by the author from the general theory of nonequilibrium processes. It is shown in both cases that solutions of the periodic or quasiperiodic type do not exist for sufficiently large values of the wave vector in the dispersion equation.

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USSR

UDC 666.1.056:678.84:678.643

SIL'VESTROVICH, S. I., STOLYAROV, M. I., GURIKOVA, L. M., STOLYAROVA, G. V.,
SHCHEREDINA, Ye. A., KOSHELKINA, O. N.

"Protective Effect of Polymer Coatings on Glass Surfaces"

Moscow, Steklo i Keramika, No 11, 1972, pp 12-15.

Abstract: The authors performed studies to determine the influence of protective organosilicon and other organic polymer coatings on industrial glass: sheet glass 1.5 mm thick and electric vacuum type S-49-2 glass (rods 5 mm in diameter). Coatings 1-25 μ thick were applied with the polymers in solution in toluene, acetone, ethyl alcohol, styrene and in a mixture of solvents. Polymers of this type reduce transparency only slightly in thin coatings, although aging may cause addition reductions in transparency. The polymer coatings tested approximately doubled the strength of the sheet glass surface, producing maximum effect with a coating thickness of 5-10 μ . Strong polymers and polymers with good adhesion to the glass produce the best effect. The protective effect is retained when the glass is exposed to high humidities for extended periods of time.

1/1

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USSR

UDC: 531.383

GURIN, A. I., Moscow Aviation Institute imeni S. Ordzhonikidze

"Stability of Stationary Motions of a Gyroscope With Spring-Loaded Limiters on a Rotating Platform in a Newtonian Central Force Field"

Leningrad, Izvestiya VUZov: Priborostroyeniye, Vol 16, No 1, 1973, pp 61-65

Abstract: The Routh-Rumyantsev procedure is used to study the stability of steady-state motions of a gyroscope on a uniformly rotating platform with regard to the central Newtonian field of forces. Necessary and sufficient conditions are found for stability of three stationary motions of a gyroscope.

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GURIN, A.I.

STABILITY OF THE STATIONARY (STEADY-STATE) MOTIONS OF A GYROSCOPE WITH SPRING ELEMENTS ON A ROTATING PLATFORM IN A HOMOGENEOUS GRAVITATIONAL FIELD OF FORCE

(UDC 511.303)

Article by A. I. Gurin, Moscow, Aviation Institute (Leningrad S. O. Ordzhonikidze Leningrad, Zhurnal Prikladnaya Mekhanika, No 1, January 1971, recommended by the Chair of Theoretical Mechanics, submitted 17 January 1972, pp 41-95)

The stability of stationary (steady-state) motions of a gyroscope on a rotating platform in a central field of gravity is investigated by the Routh-Hurwitz method. The necessary and adequate conditions of stability of the three steady-state motions of the gyroscope were obtained.

The stability of a gyroscope in a homogeneous field of gravity was investigated in reference [1]. In articles [2, 3] the effects of forced uniform rotation of the gimbal on the motion of an elastic gyroscope was considered.

We will determine the stability of steady-state motions of a gyroscope on a uniformly rotating platform with consideration of a Newtonian central field of forces by the Routh-Hurwitz method [4], which gives the opportunity to obtain the necessary and adequate conditions of stability of the individual steady-state motions of the gyroscope comparatively simply, without resorting to the compilation of differential equations of motion of the gyroscope and completion of the matches of the first integrals of the equations of disturbed motions. Aside from this, this method discloses the effect of dissipative forces on stability [5].

The kinetic energy of the gyroscope with the symbols established in reference [1] amounts to

$$T = \frac{1}{2} (A\dot{\alpha}^2 + B\dot{\beta}^2 + C\dot{\gamma}^2 + G\dot{\alpha}^2 + G\dot{\beta}^2 + G\dot{\gamma}^2 + C\dot{\alpha}^2)$$

[illegible]
$$L_{\text{eff}} = m_{\text{eff}}^2 \cos \alpha \cos \beta - \frac{1}{2} (A^2 - B^2 + D^2) \ln \cos \frac{1}{2} \alpha \cos \frac{1}{2} \beta$$
$$A^{\bullet} = A_0 + G, \quad H^{\bullet} = H_0 + H, \quad I = C_0 + C, \quad J = J_0.$$
$$\{ \mu_1, \dots, \mu_{\tilde{f}(\tilde{a}_i)}(x) \}_{i \in \tilde{A}}$$
$$(\gamma_{\text{osc}} = \frac{1}{2} \gamma_{\text{osc}}^{\text{H}} + \frac{1}{2} \gamma_{\text{osc}}^{\text{D}} \approx 0.5 \text{ p.p.m.})$$
$$\frac{d^2}{dt^2} \left(\frac{1}{2} \int_{\mathbb{R}^n} |\nabla u|^2 dx \right) = \int_{\mathbb{R}^n} |\nabla u|^2 dx + \int_{\mathbb{R}^n} u^2 dx - \int_{\mathbb{R}^n} u^4 dx$$

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PIGMENTARY AND EXCRETORY FUNCTION OF THE LIVER IN CHRONIC LEUKEMIA
-U-
AUTHOR--(04)--DOZORETS, YU.L., GURIN, N.G., KOZLOV, L.M., EYDEL, I.I.
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 6, PP 32-35
DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD SERUM, LEUKEMIA, LIVER FUNCTION, EXCRETION, BILIRUBIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1922

STEP NO--UR/0504/70/042/005/0032/0035

CIRC ACCESSION NO--AP0129271

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129271

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DETERMINED BILIRUBIN IN THE BLOOD SERUM AFTER HIMANS VAN DEN BERG IN 219 PATIENTS WITH CHRONIC LEUKEMIA AND ITS FRACTION, AFTER EBERLEIN IN 91 PATIENTS. QUANTITATIVE STUDY OF URINE UROBILIN WAS MADE IN 109 PERSONS AND CAPACITY OF THE LIVER TO EXCRETE ASORUBIN STAIN IN 107 PATIENTS. INCREASE OF FREE AND MONOGLUCURONID BILIRUBIN AND CHANGES OF DIGLUCURONIDBILIRUBIN IN THE BLOOD SERUM WERE FOUND. THESE CHANGES WERE MAINLY ASSOCIATED WITH A DISORDER OF THE CONJUGATING FUNCTION OF THE LIVER DUE TO A REDUCTION OF GLUCURONIL, TRANSFERASE ACTIVITY OF MICROSOMES OF HEPATOCYTES. IN THE TERMINAL PERIOD THE BILIRUBIN EXCRETORY FUNCTION OF THE LIVER WAS DISTURBED MOST OF ALL. UROBILINSORBTIVE FUNCTION OF THE LIVER WAS CONSTANTLY DISTURBED AND EXCRETORY, REMAINED UNCHANGED. FACILITY: KAFEDRA GOSPITAL'NOY TERAPII VITEBSKOGO MEDITSINSKOGO INSTITUT. .

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PREPARATION OF BLOOD ABOARD SHIPS -U-
AUTHOR-(03)-GURIN, N.N., SHEVCHENKO, V.D., KALEKO, S.P.
COUNTRY OF INFO--USSR
SOURCE--VOENNO-MED ZH 1. 62-64. ILLUS. 1970
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BLOOD PROTEIN, BLOOD TRANSFUSION, SHIP AUXILIARY EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3009/0138 STEP NO--UR/0177/70/001/000/0062/0064

CIRC ACCESSION NO--AP0139003
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0139003

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SCHEMES FOR ORGANIZING THE COLLECTION AND PREPARATION OF BLOOD ABOARD VARIOUS TYPE SHIPS ARE PRESENTED. COLLECTION TEAMS OF 5, 9, AND 11 PERSONS ARE RECOMMENDED WHEN HANDLING LESS THAN 40, 41-80, AND GREATER THAN 80 DONORS, RESPECTIVELY. THESE SCHEMES WERE PRACTICAL, AND BLOOD THUS COLLECTED HAS BEEN USED TO PREPARE BLOOD PROTEIN HYDROLYZATE, BUT IS ALSO SUITABLE FOR TRANSFUSION WITH NO COMPLICATIONS.

UNCLASSIFIED

AA0052393

GURIN, N. Ya.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, *1/2*

240970

ELECTRIC SPEED LIMITER FOR HOISTS com-
prising two d.c. tachogenerators and

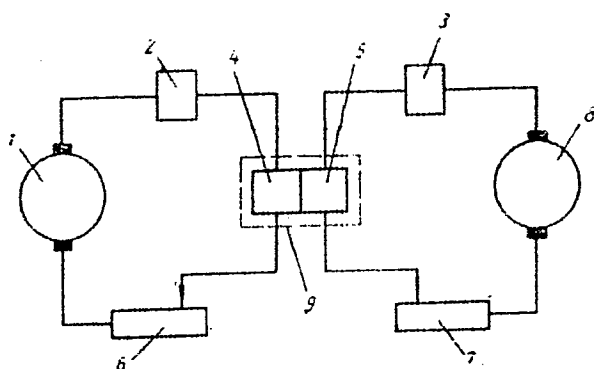
electromagnetic relays, differing in one winding of the serviceability check relay being included in the circuit of the tachogenerator of the hoist motor and the other included opposed to the first in the circuit of the tachogenerator of the retarding device. This serves as an extra safety precaution. The operation is based on a comparison of the speed of the hoist set on the tachogram by the retarding device and command apparatuses 6 and 7, with the actual speed, checked by tachogenerators 1 and 8. When there is no discrepancy, a constant current is maintained in the circuits of relays 2 and 3 with the aid of command apparatuses 6 and 7; throughout the whole lifting cycle, as a result of which the contacts of relays 2 and 3 in safety circuit 10 remain closed. On any discrepancy occurring in one of the branches of the limiter, there is a branch of the symmetry of the currents in winding 4 and 5 of relay 9, which causes the contacts of relay 9 in circuit 10 to open.

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AA0052393



10.7.67. as 1170404/22-3, GURIN, N. IA. et al.
Donetsk Finishing Directorate (21.8.69) Bul.
13/1.4.69. Class 35a, Int. Cl. G 05g.

Gurin, N. Ya.; Kurchenko, Ye. M.; Shapavalov, N. I.
Donetskoye Naladochnoye Upravleniye

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19820998

my

USSR

UDC 612.38:698.12

6
MIRNIN, V. B., ORSH, S. S., and TROSHIN, A. N., Moscow State University

"Electrophysiological Characteristics of the Auditory System of Birds. I. Mesencephalic, Diencephalic, and Rhinencephalic Nuclei"

Moscow, Vsesoyuznyy Soyluz Vysshykh Shkol. Biokhimiya, 1976, No 1, 1976, pp 30-40

Abstract: A review of the literature on electrophysiology of the auditory system in birds is presented. The electrophysiological characteristics and morphological data indicate that the acoustic projections in the regions of the avian brain include the mesencephalon, diencephalon, dorsal portion of the lateral telencephalic nucleus and, apparently, in the isthmus nucleus. The nature of the evoked potentials in these regions and their dependence on the parameters of the acoustic signal is described.

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USSR

UDC 591.165+591.582.2:593.05

IL'ICHEV, V. D., GURIN, S. S., TEMCHIN, A. N., and VORONETSATY, V. S., Soil
Biology Faculty, Moscow State University

"Biological Signals and Functional Characteristics of the Pigeon Acoustic System"

Moscow, Zhurnal Obshchey Biologii, No 3, 1970, pp 266-275

Abstract: The frequency range, spectral and amplitude characteristics, duration, time intervals, and front of courtship cooing, threat and fledgling signals in pigeons were studied. All of these parameters, except the spectral ones, show great variability. The relationship between the amplitude of the cochlear potentials and evoked medullar, mesencephalic, and hemisphere potentials, on the one hand, and the parameters of acoustic signals, on the other, were also studied. A comparison of the above-mentioned parameters of the biological signals with conditioned reflexes and other functional characteristics of the acoustic system in pigeons failed to disclose any significant correlation. The reason for this may lie in the nature of the ecology of the pigeon, whose acoustic orientation does not require these systems to be carefully adjusted to each other. For example, unlike some other birds, the pigeon does not need to perceive and locate low-frequency sounds, because its biological signals are normally used in conjunction with vision.

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Single Crystals

USSR

UDC: 548.55.002

GURIN, V. N., Physico-Technical Institute imeni A. F. Ioffe of the Academy of
~~Sciences USSR~~

"Method of Production of Single Crystals of Refractory Compounds of Transition
Metals"

Moscow, Neorganicheskiye Materialy, Vol 9, No 8, Aug 73, pp 1289-1307.

Abstract: A survey is presented of methods of production of single crystals of refractory compounds of the transition metals in groups IV-VI: the borides, carbides, nitrides, oxides and silicides. The term "refractory" is taken to mean compounds with melting points higher than that of pure iron (approximately 1500° C) with certain exceptions. Methods studied include those conducted in the solid, liquid and gas phases and in solutions. The liquid-phase methods are found to have definite advantages as to size of single crystals produced, followed by the gas phase, solution and solid phase methods (with the exception of carbides). This comparison, however, is not strict, since it does not consider the quality of the crystals, and cannot be considered applicable to all compounds of each class. A 200-item bibliography is appended.

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USSR

UDC 542.9:541.412:546.3

GURIN, V. N.

"Methods of Synthesis of Refractory Transition Metal Compounds and Prospects for Their Development"

Moscow, Uspekhi Khimii, Vol 41, No 4, 1972, pp 616-647.

Abstract: This review presents the primary methods used for the synthesis of borides, carbides, silicides, nitrides and oxides of group IV-VI transition metals. The basic characteristics of methods and means of synthesis are presented: temperature, time, plans of chemical reactions, etc. The general plans of synthesis from solutions in melts and electrolysis of solutions and melts in melts are studied in detail. The prospects for the development and use of these synthesis methods are discussed. A bibliography of 377 references is presented.

1/1

USSR

UDC 621.912-492.2

BEZYKORNOV, A. I., BOGOMOLOV, N. I., GURINCHUK, I. I., KOVAL'CHENKO, M. S.
KONOVALOVA, Ye. S., and PADERNO, Yu. B., Institute of Problems of Material
Science, Academy of Sciences Ukr SSR

"Investigation of the Form, Durability, and Abrasive Ability of Grains of
Refractory Compound Powders"

Kiev, Poroshkovaya metallurgiya, No 5, May 71, pp 65-69

Abstract: The results are presented of an investigation of the form, strength, and abrasive properties of powders of fused titanium and niobium carbides and calcium boride, in comparison with certain data on synthetic corundum. The results show that the deviation from grain isometricity of niobium carbide is larger than that of titanium carbide; that the strength of niobium and titanium carbides with a grain size of more than 250 μ is higher than that of calcium boride and white synthetic corundum grains, while at smaller grain sizes the opposite is true. The compounds considered here may be ordered with respect to their increasing abrasive power, beginning with synthetic corundum: EB-NbC-TiC-CaB₆ = 1-1.18 - 1.36 - 1.88.

1/1

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1/2 023 UNCLASSIFIED PROCESSING DATE--3000170
TITLE--ON THE DIAGNOSIS AND TREATMENT OF EARLY COMPLICATIONS AFTER
OPERATION ON THE ABDOMINAL CAVITY ORGANS -U-
AUTHOR--(02)--BORODIN, I.F., GURINOVICH, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVCOKHRANENIYE BELORUSSII, 1970, NR 6, PP 22-24

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INTERNAL ORGAN DISEASE, SURGERY, PERITONEUM, INTESTINAL
OBSTRUCTION, HEMORRHAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0927

STEP NO--UR/0477/70/000/006/0022/0024

CIRC ACCESSION NO--AP0126586

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126586

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER PRESENTS SOME DATA ON THE FREQUENCY, DIAGNOSIS AND TREATMENT OF EARLY INTRAABDOMINAL COMPLICATIONS AFTER OPERATIONS ON THE ABDOMINAL CAVITY ORGANS; THESE COMPLICATIONS HAVE BEEN OBSERVED IN THE CLINIC DURING 23 YEARS RUNNING (1945-1967). AN ANALYSIS OF COMPLICATIONS IN 82 PATIENTS HAS BEEN PRESENTED. OF THESE COMPLICATIONS PERITONITIS HAS BEEN OBSERVED IN 0.12PERCENT OF THE PATIENTS WHO HAVE UNDERGONE THE OPERATION ON THE ABDOMINAL CAVITY ORGANS, AN ACUTE INTESTINAL OBSTRUCTION HAS OCCURRED IN 0.09PERCENT AND INTRAABDOMINAL HAEMORRHAGE HAS BEEN MARKED IN 0.056 PER CENT. FACILITY: -YA KAFEDRA GOSPITAL'NOY KHIRURGII MINSKOGO MEDITSINSKOGO INSTITUTA.

1/3 . 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PHOTOREDUCTION OF PORPHYRINS BY STANNOUS CHLORIDE IN AN ACID MEDIUM
-U-
AUTHOR--(02)-SUBOCH, V.P., GURINOVICH, G.P. G
CCOUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(2), 112-14
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--PORPHYRIN, TIN CHLORIDE, CHEMICAL REDUCTION, PHOTOEFFECT,
SPECTROPHOTOMETRIC ANALYSIS, UV SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1093

STEP NO--UR/0250/70/014/002/0112/0114

CIRC ACCESSION NO--AT0124750

UNCLASSIFIED

2/3 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124750

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOTOREDN. OF PROPPHYRINS WAS STUDIED IN AQ. HCL (3-37PERCENT) AND IN A MIXT. OF H SUB2 O, GLYCEROL, AND CONCD. HCL (25:25:2), WITH SNCL SUB2 .2H SUB2 O AS THE REDUCING AGENT (5 MG SNCL SUB2 .2H SUB2 O-ML SOLN.). THE SOLNS. WERE IRRADIATED WITH A 750 W PHOTOGRAPHIC LAMP USING A CONDENSING LENS OR DISPERSED LIGHT. THE COURSE OF THE REACTION WAS FOLLOWED SPECTROPHOTOMETRICALLY. THE DEGREE OF HYDROGENATION OF THE REACTION PRODUCTS WAS DETD. BY TITRATION WITH BR WATER (FOR THE PRODUCT WITH MU SUBMAX 510 M MU (FORM I) OR AQ. K SUB3 FE(CN)SUB6 FOR THE PRODUCTS ABSORBING AT 460 M MU (FORM II) AND 445 AND 740 M MU (FORM III), RESP.), IN A SPECIALLY DESIGNED VACUUM CELL. THE AMT. OF REACTED STARTING PROPPHYRIN WAS ALSO DETD. SPECTROPHOTOMETRICALLY. THE SOLNS. OF REDUCED FORMS OF MESOPORPPHYRIN WERE PREPD. AS FOLLOWS. MESOPORPPHYRIN (2-3 MG) WAS DISSOLVED IN 0.3 ML CONCD. HCL, 7 ML DISTD. H SUB2 O ADDED, AND 30-5 MG SNCL SUB2 .2H SUB2 O ADDED. THE SOLN. WAS IRRADIATED UNTIL THE PPT. OF FORM I FORMED AND THE SOLN. WAS ALMOST COLORLESS. THE UV SPECTRUM OF FORM I WAS RECORDED IN CONCD. HCL. SIMILARLY OBTAINED WAS THE FORM II, BUT THE UV SPECTRUM WAS DETD. IN THE H SUB2 O GLYCEROL CONCD. HCL MIXT. MESOPORPPHYRIN (2-3 MG) WAS DISSOLVED IN 1.5 ML CONCD. HCL, 30-5 MG SNCL SUB2 .2H SUB2 O ADDED, AND THE SOLN. IRRADIATED UNTIL THE PROPPHYRIN DISAPPEARED FROM THE MIXT.; 4.5 ML H SUB2 O WAS ADDED AND THE SOLN. AGAIN IRRADIATED UNTIL A PPT. FORMED (MIXT. OF FORMS I AND III). IN THE PHOTOREDN., FORMS I AND II ARE FORMED BY ADDN. OF 2 H ATOMS, AND FORM III BY ADDN. OF 4 H ATOMS.

UNCLASSIFIED

3/3 021

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ABSTRACT/EXTRACT—THUS, FORMS I AND II ARE TWO DIFFERENT DIHYDROPORPHYRINS
AND FORM III IS A TETRAHYDROPORPHYRIN. NONE OF THESE REDUCED PROPHYRINS
FORMS A COMPLEX WITH SnCl_4 SUB2 IN ACIDIC MEDIUM. FACILITY: INST.
FIZ., MINSK, USSR.

UNCLASSIFIED

1/3 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MECHANISMS OF QUENCHING THE FLUORESCENCE OF SOME PORPHYRINS -U-
AUTHOR--(03)-BONDAREV, S.L., GURINOVICH, G.P., CHERNIKOV, V.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 641-4
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TOPIC TAGS--FLUORESCENCE QUENCHING, PORPHYRIN, ZINC COMPLEX, QUINONE,
NITROBENZENE, ELECTRON TRIPLET STATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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PROCESSING DATE--04DEC70

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. QUENCHING OF THE FLUORESCENCE OF MESOPORPHYRIN IX (I) AND ITS ZN COMPLEX BY BENZOQUINONE (II), M DINITROBENZENE (III), PHNHNH SUB2 (IV), AND MEI IN PHME SOLNS., PREVIOUSLY DEAERATED AT 2 TIMES 10 PRIME NEGATIVE5 TORR, WAS STUDIED. SINCE AT LOW CONCNS. (MAX. 10 PRIME NETATIVE2 M) OF III AND FOR HIGH CONCNS. OF THE OTHER QUENCHING AGENTS UNDER STUDY, NO CHANGES IN THE ABSORPTION AND FLUORESCENCE SPECTRA WERE OBSD., THE QUANTUM YIELDS OF FLUORESCENCE WERE ESTD. BY SIMULTANEOUSLY MEASURING THE FLUORESCENCE OF THE PORPHYRIN SOLNS. BOTH ALONE AN/IN THE PRESENCE OF A QUENCHING AGENT. THE CALCD. DEACTIVATION CONSTS. OF THE TRIPLET AND SINGLET STATES AS WELL AS THE QUANTUM YIELDS FOR THE FLUORESCENCE AND TRIPLET FORMATION ARE TABULATED. THE OBTAINED QUENCHING CONSTS., PARTICULARLY IN THE CASE OF I, EXCEEDED THE TRIPLET STATE DEACTIVATION CONSTS. BY SEVERAL ORDERS OF MAGNITUDE, THUS INDICATING HIGHER EFFICIENCY OF THE QUENCHING LESS THAN 0.1 SEC. 2,H SUB2 NC SUB6 H SUB4 COME IN ET SUB2 O ISOPENTANTE,ETCH (5:5:2) SHOWED AN EMISSION AT 445 NM AFTER EXCITATION AT 350 NM, DUE TO A T SUBPIPI SEXTILE YIELDS TRANSITION. CUIF COLLISIONS IN THE SINGLET STATES AS COMPARED WITH THE TRIPLET STATES. IN QUENCHING THE FLUORESCENCE OF ZN-I BY II AND III, THE CONSTS. DIFFERED MUCH LESS THAN IN THE CASE OF METAL FREE I. THE QUENCHING OF THE TRIPLET TRIPLET ABSORPTION IN I BY IV DID NOT FOLLOW THE EXPONENTIAL LAW DUE TO THE FORMATION OF A PHOTOREDUCED STRUCTURE. IN QUENCHING THE FLUORESCENCE OF I BY III, THE QUANTUM YIELDS OF THE FLUORESCENCE AND TRIPLET FORMATION WERE NOT IDENTICAL.

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ABSTRACT/EXTRACT--A COMPLEX OF THE EXCITED MOL. WITH THE QUENCHING AGENT WAS PRESUMABLY FORMED, AND THE PROBABILITY OF ITS TRANSITIONS DIFFERED FROM THOSE OF THE STARTING PORPHYRIN MOL. THE TENDENCY OF I TO CREATE A COMPLEX WITH III WAS OBSO. IN THE NON EXCITED STATE. THYS, ON ADDN. OF III AT A CONCN. GREATER THAN 2 TIMES 10 PRIME NEGATIVE2 MOLE-L. TO A SOLN. OF I IN PHME, THE ABSORPTION SPECTRUM CHANGED; ITS ISOBESTIC POINTS AT 486, 524, AND 562 NM SUGGESTED THE SIMULTANEOUS PRESENCE OF 2 KINDS OF ABSORBING CENTERS, I.E., FREE I AND A I-III COMPLEX. THE COMPLEX FORMATION IN THE GROUND STATE WAS ALSO INDICATED BY DEVIATIONS FROM THE STERN VOLMER EQUATION AT THE ABOVE CONCNS. OF III. EFFICIENT FORMATION OF A ZN,I,III COMPLEX EVEN IN THE TRIPLET STATE WAS PRESUMED.

FACILITY: INST. FIZ., MINSK, USSR.

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1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--OSCILLATOR MODEL OF AZAPORPHYRINS -U-
AUTHOR--(03)-GURINOVICH, G.P., SINYAKOV, G.N., SHOLGA, A.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAU. NAUK SSSR, SER. FIZ. 1970, 34(3), 620-4
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TOPIC TAGS--PORPHYRIN, SPECTRUM, PHOSPHORUS CHLORIDE, ALKENE, TEMPERATURE
DEPENDENCE, LUMINESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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CIRC ACCESSION NO--AP0126004

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF AZA SUBSTITUTION ON A MCL. OSCILLATOR WAS STUDIED BY USING THE METHOD OF POLARIZED LUMINESCENCE AT AMBIENT TEMP. IN 3:1 CYCLOHEXANOL GLYCEROL SOLNS. OF ETICPORPHYRIN II (I), ITS MONOAZA (II) AND TRANS DIAZA (III) ANALOGS, TETRAAZAPORPHINE (IV) AS WELL AS THE ZN II, ZN III, AND MG IV COMPLEXES. AZA SUBSTITUTION RESULTED IN SYMBATIC ALTERATION OF THE LUMINESCENCE AND ABSORPTION SPECTRA; THE ELECTRONIC TRANSITION BAND BECAME MORE INTENSE AND THE VIBRATIONAL BAND CONSIDERABLY WEAKER AS COMPARED WITH THE PARENT PORPHYRINS, AND THE SPECTRA EXHIBITED QUAL. MIRROR SYMMETRY. THE EXTENT OF POLARIZATION OF SINGLE BANDS OF THE SPECTRA IN THE SYM. AND UNSYM. COMPS. IS DISCUSSED. UNCHAIN REACTION, AFTER THE INITIAL CLEAVAGE OF PCL SUB3 INTO PCL SUB2 AND CL RADICALS. THIS MECHANISM ALSO IS ABLE TO EXPLAIN THE GREATER REACTIVITY OF BRANCHED CLEFINS WITH THEIR HIGH ELECTRON D. AT THE DOUBLE BOND; HOWEVER, AT SIMILAR TO 40DEGREES THE BRANCHING BEGINS TO EXERT AN INHIBITING EFFECT ON THE REACTION AND THE STERIC FACTOR BECOMES PREDOMINANT OVER THE POLAR FACTOR; THIS ACCOUNTS FOR THE MAX. RADIOCHEM. YIELD OF THE PRODUCTS AT SIMILAR TO 40DEGREES FROM 2 METHYL 2 BUTENE, WHILE 2 PENTENE SHOWS A STEADILY INCREASING YIELD WITH RISING TEMP. EVEN AT 80DEGREES. FACILITY: INST. FIZ., MINSK, USSR.

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1969, Vol 68, Nr 11, pp 15-17

THE STUDY OF ANTI-VIRUS PROPERTIES
OF DIFFERENT AGENTS OF CHLOROPHYLLIN SODIUM

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The authors present experimental data on virulicidal activity of various preparations of chlorophyllin and its derivatives. It is shown that virulicidal activity of chlorophyllin preparations depend on a source from which it is obtained. A problem of the active component of the preparation and dependance of virulicidal activity on structural properties of the chlorophyllin molecule are considered.

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"Some Forms of Scientific Organization of Labor in a Central Rayon Hospital"

Minsk, Zdravookhraneniye Belorussii, No 2, 1970, pp 80-81

Abstract: Physicians in the Cherven' Rayon Hospital spent 20 hours a week each on various forms of medical documentation prior to the introduction of dictating machines two years ago. These machines quickly reduced the time devoted to record-keeping to 6 hours a week, or about 15% of the time spent by the physicians in the hospital. Another time-saving device was the organization of a preliminary admission room staffed by a well-trained paramedic. The latter fills out papers, arranges for various laboratory tests, determines visual acuity, and handles other matters not requiring medical competence. A radio broadcasting unit recently installed in the hospital is used for health education work and other activities.

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